directed to the rather long list of errata for this volume given at the beginning of the report.

In vol. xx., part i., of the Indian Meteorological Memoirs, we have the first instalment of what we hope will be a series of valuable contributions to the meteorology of the upper air in India.

Up to the present time Indian meteorologists have been considerably hampered in dealing with the air circulation over India, as the only fact which existed from which they could form any idea of the air currents in the upper strata was the movement of clouds.

A systematic investigation of the upper air began, however, last year, and the chief points of the inquiry in the first instance are to determine the distinctive features of the monsoon currents as regards their depths, temperature and velocity gradients, and humidity distributions.

In the present memoir, written by Mr. F. H. Field, deputy meteorologist, and published under the direction of Dr. G. T. Walker, reference is naturally made more to the instruments employed and the methods of using them than to the observations recorded. Advantage has naturally been taken of the experience of other workers in the field, and the English, American, and German systems have all received careful study.

The greatest height as yet reached is 1380 metres, and some details are given as to the records of the self-registering instruments employed during the flights made in August and September last when this elevation was reached.

The importance of this method of investigation will at once be seen when it is noted that accurate measurements can be made of the elevation of the stratum of saturated air day by day. Thus we read that "a nearly saturated stratum of air from the sea extended from the ground surface (about 10 metres above the sea) upwards to a level which rose from 500 metres on August 27 through 800 metres on August 28 to 1130 metres on August 31. From that day onward till September 9, its limiting height was not reached by the kite, but probably exceeded 1000 metres; its upper limit fell again by September 12 to 600 metres."

The reader is referred to the memoir itself for details regarding the apparatus used and the various interesting meteorological curves given relative to the numerous flights made.

FURTHER RESULTS OF THE JESUP NORTH PACIFIC EXPEDITION.

THE recently published memoirs of the Jesup North Pacific Expedition maintain the excellence both as to matter and illustration of the previous volumes. Mr. Swanton[1] gives an account of the religious ideas and social organisation of the Haida Indians, who, to the number of about 600, occupy the towns of Skidegate and Masset, Queen Charlotte Islands. The whole Haida stock is divided into two "clans," the Raven clan and the Eagle clan, the significance of the division being purely social. Each is strictly exogamic, a Raven man being compelled to marry an Eagle woman, and an Eagle man a Raven woman, while the children always belong to their mother's clan. A man of the Raven clan was reckoned in that clan wherever he might go, and the Ravens among whom he settled were his uncles, elder and younger brothers, sisters and nephews. The members of the opposite clan were frequently considered downright enemies. "Even husbands and wives did not hesitate to betray each other to death in the interest of their own families. At times it almost appears as if each marriage were an alliance between opposing tribes; a man begetting offspring rather for his wife than for himself, and being inclined to see his real descendants rather in his sister's children than in his own" (p. 62).

The Raven and the Eagle do not seem to have been deities or deified ancestors. "A West Coast man said that the people sometimes left food for a raven on the beach, and, when it got near them, told it to give them something." Another man, however, said "they did not sacrifice to it or pray to it, because it stole too much as it was." And although Eagle was called "grandfather" by men of the Eagle clan, as Raven was called "grandfather" by the Ravens, this was not because either was regarded as a direct ancestor, "but because they had been prominent heroes of the mythical period, and belonged respectively to the Eagle and Raven clans."

The clans were divided into an indefinite number of "families," and the "family" is the fundamental unit in Haida society. These usually take their names from towns or camping grounds, and are simply local groups. The "family" was divided into households, and there were thus house chiefs, family chiefs, and town chiefs.

The families had certain prerogatives which they guarded jealously, such as the right to use certain personal, house, and canoe names, and the right to wear certain objects or representations of objects, and to carve them upon their houses or property. "These latter I have called 'crests.' They were generally representations of animals; but trees, shells, and figures of objects used in daily life also occur. They were originally obtained from some supernatural being or by purchase from another family." The author is wise in refraining from the use of the word *totem* in this connection, for, as he justly remarks, "they have . . . no proper totemic significance, their use being similar to that of the quarterings in heraldry, to mark the social position of the wearers"; but the name "totem-pole" has crept in beneath the illustrations of the poles, carved with crests, placed on front of the houses (Plates i.–iii.).

The author is of opinion that the "crest system" was "rooted in religion," and that it may have developed from the "personal manitou" (p. 112).

The study of the Haida social organisation is of peculiar interest, since it is possible to view the conflict actually going on between the purely maternal family organisation and the paternal property laws, and the complexities resulting therefrom. It is to be hoped that future observers will apply Dr. Rivers's genealogical methods to the investigation of the sociology of these and other American tribes, as it would be sure to yield important results. This method, however, was not published in time for Mr. Swanton to utilise it.

Turning to religious beliefs, the Haida world is peopled with supernatural beings of the air, sea, and land; the sun is of comparative unimportance, and the moon belongs to the Raven clan. The chief of the Haida deities is Power-of-the-Shining-Heavens, who gives "power" to all things; he is prayed to in sickness or sorrow, and the clouds are his blankets. Owing to the character of the country, the entanglement of land and sea, and the impenetrable nature of the interior, all communication must be by sea, and the supernatural beings of the sea have thus attained an exaggerated importance; but a supernatural being can be destroyed "by cutting its body in two and throwing a whetstone between the severed portions. In their endeavours to coalesce, the two parts then grind themselves to nothing."

The shaman was "possessed" by a supernatural being, and became for the time being the supernatural being himself. The calling was generally hereditary in the family, descending from maternal uncle to nephew, but the youth had to qualify himself by training. "Spirits would come and look around a village to find 'one who was clean' through whom they would act." To become "clean" a man had to abstain from food for a long time. A spirit once, looking through the smoke-hole of a house, saw a youth lying almost dead, "but he was so 'clean' that he looked transparent 'like glass.' So the spirit entered him."

The volume, which is profusely illustrated, deals also with secret societies and potlatches, or the ceremonial giving away of property, and contains nearly 200 Haida stories.

The third and last part of the volume of the Kwakiutl texts[1] collected by Dr. Boas and Mr. Hunt is now published. These folk-tales form a mine of treasures for the folklorist, and are especially valuable as giving unbiased and unconscious evidence concerning custom and belief.

[1] "Contributions to the Ethnology of the Haida." By J. R. Swanton. Jesup North Pacific Expedition, vol. v. part i., 1905.

[1] "Kwakiutl Texts." By Franz Boas and George Hunt. Jesup North Pacific Expedition, vol. iii. part iii., 1905.

Numerous songs are given, many being songs of cannibals. The volume concludes with a *précis* of each tale. The authors are to be congratulated on the termination of what must have been a laborious piece of work.

The study of the religion and myths of the Koryak [1] is of particular interest, since these people are very little known, and they seem to have been successful in resisting the efforts of the Russians to convert them to Christianity, and to have preserved their primitive religion to a considerable extent.

The Supreme Being occupies an important position in the religious life of the Koryak, but the conception of him is vague. Nothing is known of his world-creating activity, except that he sent down Big Raven to our earth to establish order, and Big Raven is the founder of the world. The One-on-High plays no active part in the myths which occupy more than one-half of the volume; these deal almost exclusively with the life, travels, adventures, and tricks of Big Raven, his children, and other relatives. The value of this record is greatly increased by a comparison of the Koryak myths with Kamchadal, Chukchee, Yukaghir, Mongol-Turk, and American mythologies.

Descriptions are given of the festivals and sacrifices, and customs at birth, death, and funerals; many of the charms and sacred implements, and some of the ceremonies, are illustrated from photographs and drawings.

A. C. HADDON.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—The electors to the Isaac Newton studentships give notice that in accordance with the regulations an election to a studentship will be held in the Lent term, 1907. These studentships are for the encouragement of study and research in astronomy (especially gravitational astronomy, but including other branches of astronomy and astronomical physics) and physical optics. The studentship will be tenable for the term of three years from April 15, 1907. The emolument of the student will be 200*l.* per annum, provided that the income of the fund is capable of bearing such charge. Candidates for the studentship are invited to send in their applications to the Vice-Chancellor between January 16 and 26, 1907, together with testimonials and such other evidence as to their qualifications and their proposed course of study or research as they may think fit.

The State medicine syndicate reports that it has held two examinations in tropical medicine and hygiene during the past year. At the January examination six candidates presented themselves, three of whom passed and received diplomas. At the August examination eleven candidates presented themselves, of whom ten passed and received diplomas. The syndicate proposes to contribute out of the funds in its hands the sum of 150*l.* annually as part of the stipend of the reader in hygiene.

Mr. Ernest Gardner, M.P., has been appointed a member of the board of electors to the professorship of agriculture, and Sir Walter Gilbey, Bart., an additional member of the board of agricultural studies.

The following have been appointed examiners for the natural sciences tripos:—physics, Mr. C. T. R. Wilson and Mr. J. A. McClelland; chemistry, Dr. Fenton and Mr. H. B. Baker (Oxford); mineralogy, Mr. A. Hutchinson and Mr. H. L. Bowman (Oxford); geology, Mr. P. Lake and Mr. E. J. Garwood; botany, Mr. F. F. Blackman and Mr. A. G. Tansley; zoology, Prof. E. W. MacBride and Mr. R. C. Punnett; physiology, Mr. F. G. Hopkins and Dr. T. G. Brodie (London); and human anatomy, Mr. T. Manners-Smith and Dr. A. Robinson (Victoria).

The Mark Quested exhibition of 60*l.* a year for three years ending Christmas, 1909, has been awarded to F. A. Potts, of Trinity Hall, assistant to the superintendent of the museum of zoology.

THE honorary degree of LL.D. has been conferred upon Sir W. H. Perkin, F.R.S., by the Johns Hopkins University, Baltimore.

[1] "The Koryak, Religion and Myths." By Waldemar Jochelson. Jesup North Pacific Expedition, vol. vi. part i., 1905.

A NEW building for the engineering department of the University of Pennsylvania was formally dedicated on October 19, and is said to be the largest and best equipped structure devoted to engineering education in the United States. The cost, including equipment, was 200,000*l.*

THE council of University College, London, has received from the committee and subscribers of the Carey Foster Testimonial Fund the sum of 143*l.* to be applied in the award of an annual prize in physics, to be known as the Carey Foster research prize. This fund is the balance of that raised for the portrait of Dr. Carey Foster which was presented to the council in July last.

WE learn from *Science* that the Georgia Legislature has appropriated 20,000*l.* to erect and equip a building for the Agricultural College, and that the New York State College of Agriculture at Cornell University has received a gift of 6000*l.* for the foundation of six agricultural scholarships. Our contemporary also states that the University of Florida has been removed during the summer from its former position at Lake City to new grounds and new buildings at Gainsville, Fla. The new grounds comprise a tract of five hundred acres just outside the city limits of Gainsville.

IN his report for 1906 on secondary education in Scotland, Dr. J. Struthers, the secretary to the Scotch Education Department, devotes a section to the teaching of science. After directing attention to the satisfactory progress made in the secondary schools of Scotland in developing a sound and well-considered course of experimental science, the secretary remarks on a common mistake in the practice of science teachers in allowing inadequate time for the discussion of experimental exercises. As one of the inspectors reported to the Department, "unless frequent occasions are afforded for conference on class results, divergences, and conclusions, the work is apt to degenerate into a series of more or less isolated operations in which the pupils are found, not only lacking in their grasp of the subjects of study, but deficient in their knowledge of the units they are using and in their understanding of the constants they have determined." This failing is not confined to Scottish schools, and teachers would do well to take every precaution that the experiments do not degenerate into mere recipes unintelligently worked through by the pupils. Unless the pupils acquire a comprehensive idea of the meaning of series of connected experiments, they are obtaining little help in learning how to employ scientific methods.

SOCIETIES AND ACADEMIES.

LONDON.

Royal Society, June 21.—"Experimental Evidence of Ionic Migration in the Natural Diffusion of Acids and of Salts.—Phenomena in the Diffusion of Electrolytes." By R. G. **Durrant.** Communicated by W. A. Shenstone, F.R.S.

Conclusions.—The results as given in the present paper appear to afford a considerable body of data tending to support the theory of Nernst and Planck.

So far as the author is aware, the method of studying band boundaries has been almost entirely confined to experiments in which batteries have been employed, as in the work of Orme Masson and of Steele.

The earlier experiments in jellies and the later experiments with silver nitrate and calcium chloride show that very fairly sharp bands are obtainable without batteries.

The evidence goes to show that hydrogen ions move in advance of the diffusion front, whereas other ions produce their various "effects" in the rear of the diffusion front.

Entomological Society. October 3.—Mr. F. Merrifield, president, in the chair.—*Exhibitions.*—Commander J. J. **Walker**: A specimen of *Calosoma sycophanta* taken in Denny Wood, New Forest, June 16; *Lygaeus equestris*, L., found in the Isle of Sheppey on September 22; *Sitaris muralis*, taken near Oxford in August by Mr. A. H. Hamm; varieties of *Vanessa urticae*, *Argynnis adippe*, *Lycaena icarus*, ♂, and of an almost black form of *Strenia clathrata* occurring at Streatley, Berks, in August—all